Member Body	Comments	Observations of the project
FRA-1	Font problem for the text defining the attribute value_component	Closed / Rejected This does not appear to be a problem in the source files for the DIS document, and may have been introduced by reformatting of the document by the SC4 Secretariat or ISO CS. No change to the document required.
UK-1	The pagination of the main part of the document is wrong with odd and even pages on the wrong sides of the paper. This could be corrected either by eliminating the blank page viii, or by introducing a blank page as backing for the ISO cover sheet.	Closed / Accepted Project Leader/QC will consult with ISO CS to determine whether cover page should/should not be included in the PDF file submitted to ISO for publication.
UK-2	The boiler plate text should be amended to take account of the new name `Integrated generic resource' for the 40 series parts. I suggest: The parts of ISO 10303 fall into one of the following series: description methods, integrated generic resources, application interpreted protocols, ... This part of ISO 10303 is a member of the integrated generic resources series. The integrated generic resources specify a single conceptual product model.	Closed / Rejected The current text is consistent with ISO 10303-1 and the ISO 10303 Supplementary Directives. No change is necessary to the document.

Member Body	Comments	Observations of the project
UK-3	The note is misleading in the extreme. A founded item is NOT semantically equivalent to a representation item, if it was it could be used on any occasion when a representation item is required. The whole point about a founded item is that it requires a founded context and it provides a PARTIAL definition of a representation_item. I suggest removing this note and replacing it with the much more relevant note: NOTE: A geometric_representation_item may be founded via a reference to a founded_item having a representation_item as an attribute.	Closed / Accepted The textual definition and accompanying notes for the founded_item entity data type have been revised. This revision is common to ISO 10303-43 second edition and ISO 10303-43:1994/Cor.2:2000.

Member Body	Comments	Observations of the project
UK-4	The semantics of this entity seem to have changed considerably since the IS publication. The example certainly corresponds to a way in which the entity has been used (in my opinion mis-used) in some AP applications. The usage in the exaple seems to be contrary to the statement `one representation is not made part of the definition of the other by participation in a representation_relationship' since the inference in the example is that R3 somehow corresponds to the entire house. Questions brought to mind by this example are: What, if anything, would a representation relationship between R2 and R3 mean? If I want to create an instance of shape_definition_representation for the shape of the complete house what should be the used_representation? R3 or something else which explicitly contains G1 and G2? I note that EXAMPLE 2 in representation_relationship_with_transformation reverts to the original semantics of representation_relationship and relates two representations with a genuine semantic content each providing a complete set of representation_items. Following this model R3 would in fact contain G1 and G2 as explicit items.	Closed / Accepted The following changes to the part document form the resolution to this issue. The example that previously accompanied representation_relationship has been moved to representation_relationship_with_transformation. A new (non-geometric) example has been added to representation_relationship.The diagrams that illustrate the examples for representation_relationship_with_transformation and mapped_item have been modified to show the representations R1, R2 and R3.
UK-5	Something very strange has happened to the font at the beginning of the value_component attribute description.	Closed / Rejected

Member Body	Comments	Observations of the project
UK-6	The document does not satisfy a number of the requirements of the ISO Central Secretariat for presentation of international standards. These requirements are identified in a number of standing document ballot issues (and one SEDS issue) against the ISO 10303 Supplementary Directives (SC4 N858). These include: placement of copyright notice in page footers, wording of page 1 header, form of reference to "to be published" normative references, etc. Address all minor editorial issues in parallel with updates to the SDs - current plans imply that revised SDs should be available during the ballot issue resolution period for this part.	Closed / Accepted Minor editorial corrections have been made to the part as follows. ISO Copyright notice moved to separate page (ii). Table of contents now starts on page iii. Headers and footers corrected as per latest ISO CS instructions. Formatting of notes and examples updated.
UK-7	The statement that occurs in the Introduction and in the scope statement that this part is intended to "describe aspects of products" is correct but probably insufficient to explain the intended use and applicability of these resource constructs. Add a statement that the primary use of representation constructs is to describe properties of products.	Closed / Accepted Text in the Introduction and scope statement modified as in the proposed resolution.
UK-8	Definitions of terms should not have full stops Remove the full stops from the end of each defining phrase	Closed / Accepted Full stops have been removed.

Member Body	Comments	Observations of the project
USA-1	The use of the basic_attribute_schema constructs from Part 41 to assign attributes to the representation entity causes ambiguity in APs that use this edition of this part, in addition to requiring unnecessary work-arounds to remove the ambiguity. The DERIVED attributes in representation id and description cause the entities id_attribute, and description_attribute to be implicitly interfaced when it is interfaced (explicitly or implicitly) into the AIM schema. This structure causes ambiguous semantics and extra unnecessary work for AIM developers (if they even detect the problem). The work-around in the APs to resolve the semantics, of course, is to explicitly interface the id_attribute and description_attribute entities simply so a RULE may be written to disallow their existence in a data store that complies with the schema. The necessity for this work-around indicates a poor solution.	Closed / Accepted Part 41 will write a rule template for inclusion in Annex F. Add a NOTE to each entity data type that includes a DERIVEd attribute: NOTE A template for constraining the population of the entity data types defined in the basic_attribute_schema is described in Annex E of ISO 10303-41:2000.
USA-2	IP1 of founded_item does not define what it means to "participate directly or indirectly in the definition of a representation_item". Specifically, indirect participation in the definition of a representation_item is ambiguous.	Closed / Accepted The informal proposition has been reworded. Other changes to the definition of the founded_item entity data type also address this issue.

Member Body	Comments	Observations of the project
USA-3	It is not clear what the intent of the first sentence of the note is attempting to convey. The sentence describes the founded_item as "semantically equivalent" to a representation_item. This is an incorrect statement for at least the following reasons: A founded_item 1. may not be an item in a representation. 2. does not have a name. 3. is not an independent element of representation. Remove the first sentence from the note.	Closed / Accepted The note has been revised along with other text defining this entity data type.
USA-4	The second paragraph of the definition of representation describes the relationship of representation_items to a context as the basis for relating representation_items. This paragraph does not take the representation_item_relationship into account. How does the representation_item_relationship work with the association of items within contexts? What does this statement mean with respect to the inclusion of the representation_item_relationship? Define the semantics of the different interactions of representation, representation_context, representation_item and representation_item_relationship.	Closed / Accepted Two new notes have been added to the definition of the representation entity data type, explaining that representation_item_relationship does not participate in the founding mechanism. Normative text has been added to the definition of the representation_item_relationship entity data type stating this explicitly.

Member Body	Comments	Observations of the project
USA-5	The third paragraph of the definition of representation describes how representation_items are related to representation_contexts, but does not mention the role of the founded_item with respect to its relationship to a representation_item or a representation_item?s relationship to the founded_item. Add a discussion of founded_item into the normative text where appropriate.	Closed / Accepted Text of the third and fourth paragraphs modified to state that founded_items can exist within the graph of instances (now representation_item or founded_item) that are rooted in a single representation_item and thereby related to a representation_context.
USA-6	There is no description on how the representation_item_relationship interacts with the representation/representation_context system for founding items and defining a context for their comparison in representation space. Define the contextual factors in determining the relationship between the two representation_items being related by this entity.	Closed / Accepted See resolution to issue USA-4
USA-7	The example in figure 3 is an example of the representation_relationship_with_transformation. It should be used for that entity data type. Move the current example to 4.4.15. An example of a representation_relationship without a transformation should be written for 4.4.14.	Closed / Accepted Example moved from 4.4.14 to 4.4.15, and new example added to 4.4.14, as proposed.

Member Body	Comments	Observations of the project
USA-8	The second sentence of the uncertainty_measure_with_unit states that the uncertainty applies to every representation_item that has the same type of measure_value. This statement is only true within a certain context (e.g. the items in a representation with a global_uncertainty_assigned_context). Additionally, there are precedence rules for the use of this entity with the uncertainty concepts defined in Part 45. Clarify the context for the application of the uncertainty_measure_with_unit.	Closed / Accepted Additional text added to 4.4.17 stating the circumstances in which the uncertainty applies to a representation_item.
USA-9	The precedence rules described in 4.4.6 should not be necessary for the uncertainty_assigned_representation vs. a representation with a global_uncertainty_assigned_context. The two concepts should be completely orthogonal. That is, a representation that is an uncertainty_assigned_representation should not be able to have a global_uncertainty_assigned_context. Include a domain rule in the uncertainty_assigned_representation to disallow the use of a global_uncertainty_assigned_context as the context_of_items.	Closed / Rejected Inclusion of such a rule was discussed and rejected at the Committee Draft stage.

Member Body	Comments	Observations of the project
USA-10	The current Foreword says that this second edition cancels and replaces the 1994 IS edition of this IR. The 1994 IS edition needs to remain a valid standard as it is referenced by existing IS APs and APs and IRs under development. Change the text in the Foreword so that the end result is not the cancellation and replacement of the 1994 IS.	Closed / Accepted Reference to cancallation and replacement removed from Foreword. Revised text has been added to the Foreword regarding the 'provisional retention' of the first edition, using text that has been discussed and agreed with the ISO CS, and is common to all second edition IR parts (see also QC N129).

List of changes to ISO 10303-43

(parenthetic information after each change is either ballot issue(s) to which the change responds, or "PL" for changes implemented by the Project Leader to improve editorial consistency and/or compliance to ISO CS requirements)

1. Page margins changed – now 0.5 inch top and bottom (more consistent with ISO CS preferred layout) (PL)
2. WG12 N-number updated (PL)
3. Comments to reader revised (PL)
4. PL/PE address details updated (PL)
5. Page headers and footers modified (PL/UK-6)
    - standard header is ISO 10303-43:2000(E)
    - copyright now in footer – "© ISO 2000 – All rights reserved"
    - special header on page 1 – now bold (source: ISO editor's comments on ISO/IEC 9506-1)
    - temporary "EDITOR'S DRAFT" added to headers
6. Copyright notice moved from 1st page of Contents to separate page (ii) (UK-1/PL)
7. Contents now start on page iii (UK-1/PL)
8. Sentence added to the Introduction explaining that [n] is a reference to the Bibliography (PL)
9. Format of Bibliography corrected – entries are numbered 1., 2., … not [1], [2], … (PL)
10. Updated definition (from draft of TC2) for founded_item (UK-3, USA-2, USA-3)
    - references to Parts 42 and 46 slightly modified – now include [n] references to Bibliography, no longer include dates or "as corrected by …" qualifier.
11. Figure 2 modified to show the extent of the three representations R1, R2 and R3 (UK-4)
12. Figure 3 modified to show the extent of the three representations R1, R2 and R3 (UK-4)
13. Formatting of notes and examples corrected: they are now flush to the left margin, and there is now a TAB separating the NOTE (n) from its text, rather than a dash. Tab settings are 0.5" for unnumbered notes, 0.6" for numbered notes, 0.8" for unnumbered examples, 0.9" for numbered examples. (UK-6/PL)
14. References to TCs in the Foreword updated – TC1 is now published (1999), TC2 added. (PL)
15. The example previously in 4.4.14 (for representation_relationship) has been moved to 4.4.15 (for representation_relationship_with_transformation). The wording of the example has been revised to reflect its corrected placement in the document. (UK-4, USA-7)
16. A new example has been added to 4.4.14 (UK-4)
17. Paragraph spacing in the cells of Table A-1 has been reduced by 2pt to allow the table to fit onto one page. (PL)
18. The ASN.1 identifier for the document has been changed: it is now 4 (1994 IS + TC1 +TC2 being version 3). There is no change to the schema identifier, as TC2 makes no EXPRESS changes. (PL)
19. Part 42 second edition (DIS version) has been added to the Bibliography (UK-3)
20. The Bibliography entries for Parts 42 (first edition) and 46 have been updated to include explicit reference to the published TCs. This is the same as the references in TC2 of Part 43. (UK-3/PL)
21. Bibliography reference to Part 22 corrected. (PL)
22. Style used for clause 3.3 definitions changed (this is a Word usage change, and has no impact on the printed document) (PL)
23. Full stops removed from the definitions in 3.3 (UK-8)
24. NOTE added to the definition of representation, referencing template in Annex E of Part 41 for constraining the basic attribute schema (USA-1)
25. Text of the definition of representation modified to reflect inclusion of founded_items as well as representation_items in the tree that is rooted by a representation_item. (USA-5)
26. Two new NOTEs added to the definition of representation, explaining that representation_item_relationship does not participate in the founding mechanism. (USA-4)
27. Additional normative text added to representation_item_relationship (USA-6)
28. Additional normative text added to uncertainty_measure_with_unit. (USA-8)
29. Reference to cancellation and replacement of first edition removed from Foreword (USA-9)
30. Text added to the second paragraph of the Introduction stating that the primary purpose of this part is the description of product properties (UK-7)
31. Additional sentence added to the first paragraph of the Scope clause that the primary purpose of this part is the description of product properties (UK-7)
32. URL for EXPRESS in Annex C updated – there is still an open issue as to the correct URL (currently www.mel.nist.gov …) (PL)

(This second set lists changes made as a result of reviews of WG12 N457. The parenthetic information after each item includes "IR" for changes resulting from internal review, "WG" for changes resulting from working group review.)

33. N-numbers and publication date on cover sheet updated (PL)
34. "/DIS" designation on cover sheet removed (WG)
35. Text of copyright notice on cover sheet amended ("Draft International Standard" changed to "draft International Standard", hyphen removed from "above-mentioned") (WG)
36. Comments to Reader section changed, to include wording form as recommended by QC N128 (PL)
37. Copyright notice removed from footer of page ii (IR)
38. Entries for 3.3.x removed from TOC (WG/IR)
39. TOC entries for EXPRESS-G diagrams updated (automatically) as a result of correcting error to captions in Annex D (WG).
40. Wording on "provisional retention" of the first edition added to the 3rd paragraph of the Foreword (PL).
41. Second sentence of clause 1 reworded to conform to IDP3, 6.2.1 (IR)
42. Punctuation/spacing of NOTE 3 in clause 4 corrected (WG)
43. Full stop added to last sentence of 4.1 (WG)
44. Single level lists changed from numbered to bulleted, throughout the document apart from the first list in 4.2.6 where there are references to specific list items (WG/IR).
45. Non-breaking spaces and hyphens added to make line-breaks rational/consistent in the following: NOTE in 4.2.3, NOTES 7 and 8 in 4.4.9 (WG).
46. Figure captions in Annex D corrected from "Figure C.x" to "Figure D.x" (WG).
47. Spelling of "specifically" corrected in NOTE 1 of 4.4.3 (WG).
48. Reference to representation_item in the EXAMPLE in 4.4.3 made boldface (WG).
49. One use of "e.g." changed to "such as" – EXAMPLE 2 in 4.4.11 (IR)
50. Order of the Bibliography entries corrected, as required by the SDs 4.4.2 (IR)
51. Tail comments added to REFERENCE from statements in the schema interface (IR)